

PATENT COOPERATION TREATY

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**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY**
(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

REC'D 09 JUN 2005

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Applicant's or agent's file reference R-62	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/JP2004/010070	International filing date (day/month/year) 08.07.2004	Priority date (day/month/year) 08.07.2003	
International Patent Classification (IPC) or national classification and IPC Int.Cl. ⁷ F28F17/00, F25B39/02, F28F9/02			
Applicant SHOWA DENKO K.K.			

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 24.01.2005	Date of completion of this report 25.05.2005	
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010070

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☐ the description: _____ as originally filed/furnished

pages _____

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims: _____ as originally filed/furnished

pages _____

pages* _____ as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings: _____ as originally filed/furnished

pages _____

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (specify): _____
- ☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/010070

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-36</u>	YES
	Claims	<u></u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-36</u>	NO
Industrial applicability (IA)	Claims	<u>1-36</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations(Rule 70.7)

D1:JP 2003-75024 A(SHOWA DENKO K.K.),2003.03.12
D2:JP 2002-147992 A(ZEXEL VALEO CLIMATE CONTROL CORPORATION),2002.05.22
D3:JP 11-101594 A(TOYO RADIATOR CO.,LTD.),1999.04.13

Inventive step :Concerning claims 1-36

The subject matters of claims 1-36 do not appear to involve inventive steps with respect to the D1,D2 and D3,cited in the ISR.

D1 discloses an evaporator comprising a pair of header tanks, the upper and lower tanks, and a plurality of heat exchange tubes arranged in parallel between the two tanks.

D2 discloses a lower tank of an evaporator, having a steep top so that the water condensed on its surface and the surface of the heat exchange tubes can drop out of the lower tank smoothly.

D3 discloses a way to form a groove on the surface of plate 3 to draw the condensed water into the groove.

A skilled person in the art would easily conceive the idea of applying the steep top header tank, disclosed in D2, to the evaporator, disclosed in D1, to discharge the condensed water smoothly.

Also a skilled person in the art would easily conceive the idea of forming the groove, disclosed in D3, on the surface of the lower header tank, disclosed in D1, to draw the condensed water.